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EXAMINER	
SHAHRIER, SHARIF M	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/784,841	ALEXANDER ET AL.	
	Examiner	Art Unit	
	Sharif M Shahrier	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-21 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETALED ACTION

Claim Objections

1. Claims 1, 2 and 8 objected to because of the following informalities: These claims refer to the second router as the "redundant" router, while other claims refer to the second router as the "protection" router. For sake of consistency, the examiner suggests choosing one or the other terminology throughout.

2. Claim 10 is objected to because of the following informalities: The text of claim 10: ".....terminating communication between the router and the multiplexor....." should be rewritten as ".....terminating communication between the protection router and the multiplexor.....".

3. Claim 16 is objected to because of the following informalities: "transmitting a link control protocol configuration request signal" should be changed to "transmitting a link control protocol configuration response signal". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 1, 3-5, 9, 11, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shew (US 6,530,032), in view of Hess (US 5,835,696).

Regarding claim 1, Shew discloses a SONET ring network comprising of add-drop multiplexors (ADM) coupled to routers (Fig. 10 (a)). The routers are connected to the ADM without fault protection mechanism (col 7 ln 11-14).
Shew teaches coupling of a "working" router to the ADM via a multiplexor line. However, Shew does not teach coupling of a "redundant" router to the same multiplexor via a second multiplexor line.

However, Hess teaches a pair of routers, namely "active router" (Fig. 2 elmt 10-1) and "standby router" (Fig. 2 elmt 10-2), combined as a single group. The standby router provides fault protection, so that if the active router fails, then the standby router assumes the role of the active router. A single group of such routers may assume any of the router elements **194,196,198,200,202** and **204** in Fig. 10 (a) of Shaw. Hess teaches the local area network (LAN) (Fig. 2 elmt 15,16) for the transmittal of "heart beat" messages by the

standby (redundant) router to the active (working) router (col 2 ln 59-67 & col 3 ln 1-5). If the standby router receives an acknowledgement, then it concludes that the working router is operating properly. However, if an acknowledgement is not received within a timeout period, then the standby retransmits the "heart beat" message. If an acknowledgement is still not received, then the standby router assumes the role of the active router.

Regarding Fig. 2, the lines 21-1 to 21-i are the "first muliplexor line", and lines 21- i+1 to 21-j are the "second multiplexor line". Hess teaches that the networking elements, including routers, hubs, bridges and host devices, exchange configuration information (col 3 ln 33-37). One situation where this occurs is where the standby router initiates switchover from the active router, and assumes its operational role. Reconfiguration information, including MAC, IP-addresses and various identifiers are exchanged between the elements on the network and routing tables are updated. Thus, under this scheme, the redundant router can send a signal to a neighboring element or device on the ring, indicating the identifier of the redundant router (its IP-address or some other identifier in the IP-datagram). Accordingly, the device can send back a response signal, echo'ing the identifier of the redundant router in the return message. This message is intercepted by the multiplexor, which in turn will forward it to the working router and the protection router, along the first multiplexor line and the second multiplexor line respectively.

After that, a switch from the working router to the redundant router can be made, in part based on the identifier of the redundant router (its IP-address) that was included in the response IP-datagram message.

In view of this, having the system of Shew and then given the teaching of Hess, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew to incorporate the teachings of Hess.
The motivation to combine is because the original system of Shew as depicted in Fig. 10(a) did not support fault protection. By adding the necessary elements and features from Hess as described above, one can achieve fault protection and dynamic recovery in a SONET ring network comprising of multiplexors and active and backup routers in a manner that is transparent to the host devices in the network.

Regarding claim 11, Shew discloses a SONET ring network comprising of add-drop multiplexors (ADM) coupled to routers (Fig. 10 (a)). The routers are connected to the ADM without fault protection mechanism (col 7 ln 11-14).
Shew teaches coupling of a "working" router to the ADM via a multiplexor line.
However, Shew does not teach coupling of a "redundant" router to the same multiplexor via a second multiplexor line.

However, Hess teaches a pair of routers, namely "active router" (Fig. 2 elmt 10-1) and "standby router" (Fig. 2 elmt 10-2), combined as a single group. The standby router

provides fault protection, so that if the active router fails, then the standby router assumes the role of the active router. A single group of such routers may assume any of the router elements **194,196,198,200,202** and **204** in Fig. 10 (a) of Shaw. Hess teaches the local area network (LAN) (Fig. 2 elmt 15,16) for the transmittal of "heart beat" messages by the standby (redundant) router to the active (working) router (col 2 ln 59-67 & col 3 ln 1-5). If the standby router receives an acknowledgement, then it concludes that the working router is operating properly. However, if an acknowledgement is not received within a timeout period, then the standby retransmits the "heart beat" message. If an acknowledgement is still not received, then the standby router assumes the role of the active router.

Regarding Fig. 2, the lines 21-1 to 21-i are the "first muliplexor line", and lines 21- i+1 to 21-j are the "second multiplexor line". Hess teaches that the networking elements, including routers, hubs, bridges and host devices, exchange configuration information (col 3 ln 33-37). One situation where this occurs is where the standby router initiates switchover from the active router, and assumes its operational role. Reconfiguration information, including MAC, IP-addresses and various identifiers are exchanged between the elements on the network and routing tables are updated. Thus, under this scheme, the redundant router can send a signal to a neighboring element or device on the ring, indicating the identifier of the redundant router (its IP-address or some other identifier in the IP-datagram). Accordingly, the device can send back a response signal, echo'ing the identifier of the redundant router in the return message. This message is intercepted by

the multiplexor, which in turn will forward it to the working router and the protection router, along the first multiplexor line and the second multiplexor line respectively. After that, a switch from the working router to the redundant router can be made, in part based on the identifier of the redundant router (its IP-address) that was included in the response IP-datagram message.

In view of this, having the system of Shew and then given the teaching of Hess, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew to incorporate the teachings of Hess.
The motivation to combine is because the original system of Shew as depicted in Fig. 10(a) did not support fault protection. By adding the necessary elements and features from Hess as described above, one can achieve fault protection and dynamic recovery in a SONET ring network comprising of multiplexors and active and backup routers in a manner that is transparent to the host devices in the network.

Regarding claim 20, Shew discloses a SONET ring network comprising of add-drop multiplexors (ADM) coupled to routers (Fig. 10 (a)). The routers are connected to the ADM without fault protection mechanism (col 7 ln 11-14).
Shew teaches coupling of a "working" router to the ADM via a multiplexor line.
However, Shew does not teach coupling of a "redundant" router to the same multiplexor via a second multiplexor line.

However, Hess teaches a pair of routers, namely "active router" (Fig. 2 elmt 10-1) and "standby router" (Fig. 2 elmt 10-2), combined as a single group. The standby router provides fault protection, so that if the active router fails, then the standby router assumes the role of the active router. A single group of such routers may assume any of the router elements **194,196,198,200,202** and **204** in Fig. 10 (a) of Shaw. Hess teaches the local area network (LAN) (Fig. 2 elmt 15,16) for the transmittal of "heart beat" messages by the standby (redundant) router to the active (working) router (col 2 ln 59-67 & col 3 ln 1-5). If the standby router receives an acknowledgement, then it concludes that the working router is operating properly. However, if an acknowledgement is not received within a timeout period, then the standby retransmits the "heart beat" message. If an acknowledgement is still not received, then the standby router assumes the role of the active router.

Regarding Fig. 2, the lines 21-1 to 21-i are the "first muliplexor line", and lines 21- i+1 to 21-j are the "second multiplexor line". Hess teaches that the networking elements, including routers, hubs, bridges and host devices, exchange configuration information (col 3 ln 33-37). One situation where this occurs is where the standby router initiates switchover from the active router, and assumes its operational role. Reconfiguration information, including MAC, IP-addresses and various identifiers are exchanged between the elements on the network and routing tables are updated. Thus, under this scheme, the redundant router can send a signal to a neighboring element or device on the ring, indicating the identifier of the redundant router (its IP-address or some other identifier in

the IP-datagram). Accordingly, the device can send back a response signal, echo'ing the identifier of the redundant router in the return message. This message is intercepted by the multiplexor, which in turn will forward it to the working router and the protection router, along the first multiplexor line and the second multiplexor line respectively. After that, a switch from the working router to the redundant router can be made, in part based on the identifier of the redundant router (its IP-address) that was included in the response IP-datagram message.

In view of this, having the system of Shew and then given the teaching of Hess, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew to incorporate the teachings of Hess.
The motivation to combine is because the original system of Shew as depicted in Fig. 10(a) did not support fault protection. By adding the necessary elements and features from Hess as described above, one can achieve fault protection and dynamic recovery in a SONET ring network comprising of multiplexors and active and backup routers in a manner that is transparent to the host devices in the network.

Regarding claim 21, it is well known that computer memory comprising of SRAM, DRAM, disk unit is a machine accessible medium that provides instructions to a machine. The machine itself can be a computer or a microprocessor.

Shew discloses a SONET ring network comprising of add-drop multiplexors (ADM) coupled to routers (Fig. 10 (a)). The routers are connected to the ADM without fault protection mechanism (col 7 ln 11-14).

Shew teaches coupling of a "working" router to the ADM via a multiplexor line. However, Shew does not teach coupling of a "redundant" router to the same multiplexor via a second multiplexor line.

However, Hess teaches a pair of routers, namely "active router" (Fig. 2 elmt 10-1) and "standby router" (Fig. 2 elmt 10-2), combined as a single group. The standby router provides fault protection, so that if the active router fails, then the standby router assumes the role of the active router. A single group of such routers may assume any of the router elements **194,196,198,200,202** and **204** in Fig. 10 (a) of Shaw. Hess teaches the local area network (LAN) (Fig. 2 elmt 15,16) for the transmittal of "heart beat" messages by the standby (redundant) router to the active (working) router (col 2 ln 59-67 & col 3 ln 1-5). If the standby router receives an acknowledgement, then it concludes that the working router is operating properly. However, if an acknowledgement is not received within a timeout period, then the standby retransmits the "heart beat" message. If an acknowledgement is still not received, then the standby router assumes the role of the active router.

Regarding Fig. 2, the lines 21-1 to 21-i are the "first muliplexor line", and lines 21- i+1 to 21-j are the "second multiplexor line". Hess teaches that the networking elements, including routers, hubs, bridges and host devices, exchange configuration information (col 3 ln 33-37). One situation where this occurs is where the standby router initiates switchover from the active router, and assumes its operational role. Reconfiguration information, including MAC, IP-addresses and various identifiers are exchanged between the elements on the network and routing tables are updated. Thus, under this scheme, the redundant router can send a signal to a neighboring element or device on the ring, indicating the identifier of the redundant router (its IP-address or some other identifier in the IP-datagram). Accordingly, the device can send back a response signal, echo'ing the identifier of the redundant router in the return message. This message is intercepted by the multiplexor, which in turn will forward it to the working router and the protection router, along the first multiplexor line and the second multiplexor line respectively. After that, a switch from the working router to the redundant router can be made, in part based on the identifier of the redundant router (its IP-address) that was included in the response IP-datagram message.

In view of this, having the system of Shew and then given the teaching of Hess, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew to incorporate the teachings of Hess.
The motivation to combine is because the original system of Shew as depicted in Fig. 10(a) did not support fault protection. By adding the necessary elements and features

from Hess as described above, one can achieve fault protection and dynamic recovery in a SONET ring network comprising of multiplexors and active and backup routers in a manner that is transparent to the host devices in the network.

Regarding claim 3, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 1, and Shew further teaches a SONET-based ring network (Fig. 10 (a) & col 7, ln 11-14).

Regarding claim 4, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 1 and 3, and Shew further teaches an add-drop multiplexor coupled to a SONET-based ring network (Fig. 10 (a)).

Regarding claim 5, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 1 and 3.

Shew does not explicitly disclose a local area network that operates out-of-band with respect to the SONET network.

However, Hess a pair of LANs that can operate out-of-band with respect to the SONET network (Fig. 2 elmt 15 & 16).

In view of this, having the system of Shew and then given the teaching of Hess, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew to incorporate the teachings of Hess.

The motivation to combine is because the LAN can operate independently of the SONET backbone, for local router-to-router communications.

Regarding claim 9, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 1, and Shew further teaches a number of devices or elements connected to a SONET ring network (Fig. 10(a)), where each device is a router.

6. Claim 2, 6-8, 10, 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shew and Hess as applied to claim 1 above, and further in view of RFC1661.

Regarding claim 2, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 1.

These references do not explicitly disclose the establishment of a point-to-point link between the redundant router and the neighbor device.

However, RFC1661 further teaches using point-to-point (PPP) protocol for simple links for transporting packets between peers (page ii). The two peers in this case comprise of the "redundant router" and the "neighbor device". The request signal transmitted by the redundant router can be a LCP Configure-Request (p. 26) sent ov er a PPP link.

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because the PPP provides a simple robust link sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 6, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 2.

These references do not explicitly disclose utilizing LCP to establish a point-to-point link between the redundant router and the neighbor device.

However, RFC1661 teaches using LCP to establish a point-to-point link between two peers (p. ii, section "Link Control Protocol").

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 7, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 1 and 2.

These references do not explicitly disclose an identifier field in an LCP-based datagram. However, RFC1661 teaches an "Identifier" field in an LCP datagram (p. 25).

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 8, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 1, 2 and 6.

These references do not explicitly disclose an identifier field in an LCP-based datagram. However, RFC1661 teaches an "Identifier" field in an LCP datagram (p. 25). The MSB of the identifier field (byte 1, bit 8) can be utilized to indicate a line switch to the redundant router.

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 10, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claim 1.

These references do not explicitly disclose the termination of communication between the router and the multiplexor based in part on the router receiving a response signal.

However, RFC1661 teaches a Terminate-Ack LCP message (p. 26). This can be sent by the neighbor device in response to a Terminate-Request LCP message sent by the redundant router. On receiving the Terminate-Ack message, the communication between the working router and the multiplexor can be terminated.

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 12, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claim 11.

These references do not explicitly disclose the transmission of a configuration request signal from the protection router to a neighbor device.

However, RFC1661 teaches a Configure-Request LCP message which can be sent by the protection router to a neighbor device as configuration request signal.

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 13, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 11 and 12.

These references do not explicitly disclose the transmission of a configuration request signal from the protection router to a neighbor device.

However, RFC1661 teaches a Configure-Request LCP message which can be sent by the protection router to a neighbor device as configuration request signal.

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 14, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 11-13.

These references do not explicitly disclose an identifier field in an LCP-based datagram. However, RFC1661 teaches an "Identifier" field in an LCP datagram (p. 25). This can be used as the indicator for the protection router.

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 15, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 11-14.

These references do not explicitly disclose an LCP-based configuration request signal. However, RFC1661 teaches an LCP datagram with configuration request (Configure-Request, Code=1) and a response signal (Configure-Ack, Code=2) (p. 26). There is also a provision for the indicator for the protection router (Identifier, byte=1) in the LCP message (p. 25).

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 16, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 11-15.

These references do not explicitly disclose an LCP-based configuration request signal. However, RFC1661 teaches an LCP datagram with configuration request (Configure-Request, Code=1) and a configuration response signal (Configure-Ack, Code=2) (p. 26). In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 17, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 11-16.

These references do not explicitly disclose an identifier field in an LCP-based datagram. However, RFC1661 teaches an "Identifier" field in an LCP datagram (p. 25). This can be used as the indicator for the protection router when sending a configuration request signal (Configure-Request, Code=1) (p. 26).

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 18, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 11-17.

These references do not explicitly disclose an LCP-based configuration response signal. However, RFC1661 teaches an LCP datagram with a configuration response signal (Configure-Ack, Code=2) (p. 26). This signal is sent to the multiplexor, which forwards it to the protection router via the protection line and to the working router via the working line.

In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Regarding claim 19, the combined method of Shew and Hess discloses all aspects of the claimed invention set forth in the rejection of claims 11-18.

These references do not explicitly disclose an LCP-based configuration response signal. However, RFC1661 teaches an LCP datagram with a configuration response signal (Configure-Ack, Code=2) (p. 26). This signal can be sent to the multiplexor, which forwards it to the protection router via the protection line and to the working router via the working line. The indicator for the protection router can be provided in the "Indicator" field (byte=1) in the LCP message (p. 25). On receiving the configuration response at the working router, the Indicator value can be extracted from the LCP message, and the communication between the working router and the signal multiplexor can be terminated on detecting the LCP Identifier of the protection router in the message. In view of this, having the combined system of Shew and Hess and then given the teaching of RFC6061, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Shew and Hess to incorporate the teachings of RFC6061.

The motivation to combine is because LCP is sufficiently versatile to be portable to a wide variety of environments.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharif M Shahrier whose telephone number is (703) 305-870. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703) 305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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SMS

RICKY NGO
PRIMARY EXAMINER